

Project Objectives and Purpose and Need

2.1 Historical Context

The State Water Project (SWP) and Central Valley Project (CVP) facilities originated from a 1931 report called the State Water Plan, which identified the infrastructure for a statewide water development project. The California Legislature passed the Central Valley Act of 1933, which authorized the CVP called for in the plan as a state-owned and operated facility. However, in the midst of the Great Depression, California could not secure funding, so in 1935 the federal government took over the CVP. The SWP was subsequently proposed by the State in response to rapid population growth following World War II. The SWP was authorized in 1960 and was designed to complement the CVP and to share certain facilities. The projects were originally designed to include substantial upstream storage to reduce the frequency and magnitude of variations in supply and provide for more reliable and consistent deliveries to the urban and agricultural water users on a year-to-year basis. Many upstream storage projects have been extensively studied and planned but never built, such as projects at Los Banos Grandes and Sites, as well as the enlargement of Shasta Reservoir.

The SWP has operated under a number of regulatory constraints that have changed and evolved over the period of operation of the SWP and CVP, including water rights issued by the SWRCB, the SWRCB D-1485 of 1978, water quality requirements (such as were derived under the Porter-Cologne Act of 1969) including the San Francisco Region WQCP of the early 1970s, flow requirements, interagency agreements. However, until the 1990s, hydrologic conditions and physical capabilities (conveyance and storage limitations) were the main factors that constrained the ability of Department of Water Resources (DWR) and Reclamation to operate the SWP and CVP for the benefit of their water users. From 1987 to 1992, California experienced drought conditions. During that period, statewide precipitation and annual stream flow were only about 75% and 50%, respectively, of average amounts. By fall 1992, storage in California's major reservoirs was less than 12 million acre-feet (MAF), almost 10 MAF less than the average at that time. The drought increased urban water rationing, caused land fallowing and crop shifting, and stressed environmental resources.

General declines of Delta smelt and winter-run Chinook salmon resulted in both species being listed under the federal Endangered Species Act (ESA). Spring-run Chinook salmon, steelhead, and green sturgeon were also ultimately listed under ESA. Two other species, longfin smelt and Sacramento splittail, were petitioned for listing. In efforts to protect the listed species, the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) imposed certain conditions on the CVP and SWP through issuance of biological opinions (BOs).

In October 1992, Congress enacted the Central Valley Project Improvement Act (CVPIA). Among other changes, the CVPIA added to the purposes of the CVP (1) protection, restoration, and enhancement of fish, wildlife, and associated habitats in the Central Valley and Trinity River basins of California; and (2) addressing impacts of the CVP on fish, wildlife, and associated habitats. The Department of the Interior implemented the CVPIA, dedicating at least 800,000 acre-feet of dedicated CVP yield annually for fishery purposes.

At the end of the 1987–1991 drought, California announced a comprehensive water management policy that facilitated additional regulations under the federal Clean Water Act and state Porter-Cologne Water Quality Control Act and new efforts to improve the Bay-Delta ecosystem. In May 1995, the State Water Board adopted its 1995 Water Quality Control Plan for the San Francisco Bay / Sacramento–San Joaquin River Delta. The 1995 Bay–Delta Plan imposed new water quality objectives/standards intended to protect fish and wildlife beneficial uses.

During this time, the CalFed Program was developed by state agencies, federal agencies, and stakeholders to improve the Bay-Delta. The Preferred Program Alternative was chosen for implementation and was founded on a through-Delta approach. The CalFed Program recognized that the existing management approach was not working. It had concluded “there is sufficient justification to consider alternatives to the existing through-Delta approach.” (Id. at p. i.)

Along with the water supply limitations that occurred over time, the devastation caused in 2006 by Hurricane Katrina heightened California's awareness of the water supply risks presented by seismic events and climate change. As DWR explained when it prepared its Delta Risk Management Strategy:

The U.S. Geological Survey estimates that an earthquake of magnitude 6.7 or greater has a 62 percent probability of occurring in the San Francisco Bay Area between 2003 and 2032. Such an earthquake is capable of causing multiple levee failures in the Delta Region which could result in fatalities, extensive property damage and the interruption of water exports from the Delta for an extended period of time. Potential earthquakes on the Hayward, Calaveras or San Andreas faults pose the highest risk to Delta Region levees. (Delta Risk Management Strategy 2009:10.)

During the time of heightened regulation of the CVP and SWP, many water users recognized the need to change their delivery strategy. DWR, Reclamation, some of their water users, USFWS, NMFS, the California Bay-Delta Authority, and the California Department of Fish and Game responded to the anticipated and continued uncertainty regarding water supply, the growing sentiment that a new approach to the Delta was needed, and a relatively new water delivery strategy, in part, by executing a Memorandum of Agreement(MOA) on July 28, 2006. That MOA was intended to further development of what has now become the BDCP. Roughly 2 months later, those same entities were joined by other water users and nongovernmental organizations in execution of the Planning Agreement Regarding the Bay Delta Conservation Plan. The BDCP Planning Agreement established the Planning Goals for the BDCP that are incorporated in the Purpose and Need and Project Objective Statements below.

2.2 Overview

The primary challenge facing California is how to comprehensively address the public policy concerns associated with the increasingly significant and escalating conflict between the ecological needs of a range of at-risk Delta species and natural communities that have been and continue to be adversely affected by a wide range of human activities, while providing for reliable water supplies for people, communities, agriculture, and industry.

This challenge must be addressed, as California law requires that DWR, the California Department of Fish and Game (DFG), and the State Water Board, through their decisions on various actions within the Delta, including the BDCP, endeavor to strike a reasonable balance between these competing public policy objectives. The Sacramento–San Joaquin Delta Reform Act of 2009 states that

it is the intent of the Legislature to provide for the sustainable management of the Sacramento-San Joaquin Delta ecosystem, to provide for a more reliable water supply for the state, to protect and enhance the quality of water supply from the Delta, and to establish a governance structure that will direct efforts across state agencies to develop a legally enforceable Delta Plan.” (California Water Code, Section 85001, subd. [c]). The Delta “serves Californians concurrently as both the hub of the California water system and the most valuable estuary and wetland ecosystem on the west coast of North and South America. (Id., Section 85002).

As the ecological health of the Delta continues to be at risk, the conflicts between species protection and Delta water exports have become more pronounced, as amply evidenced by the long and complicated historical context of water delivery in California (summarized above), as well as the continuing court decisions regarding the intersection of the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), and the operations criteria of the SWP and the federal CVP. Other factors, such as the continuing subsidence of lands within the Delta, increasing seismic risks and levee failures, and sea level rise associated with climate change, serve to further exacerbate these conflicts. Simply put, the system as it is currently designed and operated does not appear to be sustainable from either an environmental or an economic perspective, and so the proposal to implement a fundamental, systemic change to the current system is necessary. This change is necessary if California is to “[a]chieve the two coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem.” (California Public Resources Code, Section 29702, subd. (a)).

2.3 Regulatory Background

The purpose and need and objectives are important to document the reasons the federal agencies and project proponents are undertaking the proposal and what objectives they intend to achieve by that proposal. The purpose and need and objectives are the starting point for the federal agencies and state agency in developing the reasonable range of alternatives to be evaluated in detail in the EIR/EIS (State CEQA Guidelines Sections 15124[b], 15126.6[a]); 40 CFR 1502.14) . The following sections present the project objectives for the BDCP in compliance with the requirements of CEQA and the Purpose Statement and Project Need for the BDCP in compliance with the requirements of NEPA,

2.4 Project Objectives

CEQA requires that an EIR contain a “statement of the objectives sought by the proposed project.” Under CEQA, “[a] clearly written statement of objectives will help the Lead Agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations. The statement of objectives should include the underlying purpose of the project.” (*Id.*)¹ Here, as the CEQA lead agency, DWR adopts the Purpose

¹ “Although a lead agency may not give a project’s purpose an artificially narrow definition, a lead agency may structure its EIR alternatives analysis around a reasonable definition of underlying purpose and need not study alternatives that cannot achieve that basic goal.” (In *Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1166.)

Statement as set forth in Section 2.5, as well as the description of Project Need as set forth in Section 2.6. Because of its statutory and contractual obligations, however, as well as its status as applicant for the proposed BDCP, DWR must determine how best to meet the project Purpose and Need, consistent with the coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem.

DWR's fundamental purpose in proposing the BDCP is to make physical improvements to the SWP system in the Delta necessary both to minimize adverse effects on listed species due to operations of existing SWP pumping plants in the southern Delta and, consistent with its statutory and contractual obligations, to facilitate the delivery, at reasonable costs, of reliable water supplies to SWP contractors. This fundamental purpose, in turn, gives rise to the following project objectives of DWR, in addition to the purposes enumerated in Section 2.4.

- Ensure that the BDCP meet the standards for a Natural Community Conservation Plan by, among other things, preserving, restoring, and enhancing aquatic, riparian, and associated terrestrial natural communities and ecosystems that support covered species within the Plan Area through conservation partnerships.
- Make physical improvements to the SWP system in anticipation of rising sea levels and other reasonably foreseeable consequences of climate change.
- Make physical improvements to the SWP system that will minimize the potential for public health and safety impacts resulting from the disruption of exports to south-of-Delta contractors from a major earthquake that causes breaching of Delta levees and the inundation of brackish water into the areas in which the SWP pumps operate in the southern Delta.
- Develop projects that restore and protect water supply and ecosystem health and reduce other stressors on the ecological functions of the Delta in a manner that creates a stable regulatory framework.
- Identify a new configuration for conveyance of water entering the Delta from the Sacramento River watershed to the existing SWP and CVP pumping plants in the southern Delta by considering conveyance options in the north Delta that can reliably deliver water at costs that are not so high as to preclude, and in amounts that are sufficient to support, the financing of the investments necessary to fund construction and operation of facilities and/or improvements.

2.5 Purpose Statement

The purposes of the proposed actions are to achieve the following.

1. Consider the applications for incidental take permits for the covered species that authorize take related to the actions listed below.
 - a. The operation of existing SWP Delta facilities.
 - b. The construction and operation of facilities and/or improvements for the movement of water entering the Delta from the Sacramento Valley watershed to the existing SWP and CVP pumping plants located in the southern Delta.
 - c. The implementation of any conservation actions that have the potential to result in take of species that are or may become listed under the ESA, pursuant to the ESA at section 10(a)(1)(B) and its implementing regulations and policies.

d. The diversion and discharge of water by Mirant LLC for power generation in the western Delta. *[Note to reviewers, there has not been a final determination as to whether the "Mirant Delta Power Plants", currently owned and operated by GenOn Delta L.L.C., will be included with the covered actions within the BDCP]*

2. Improve the ecosystem of the Delta by the implementing the actions listed below.
 - a. Providing for the conservation and management of covered species through actions within the BDCP Planning Area that will contribute to the recovery of the species.
 - b. Protecting, restoring, and enhancing certain aquatic, riparian, and associated terrestrial natural communities and ecosystems.
 - c. Reducing the adverse effects on certain listed species of diverting water.
3. Restore and protect the ability of the SWP and CVP to deliver up to full contract amounts, when hydrologic conditions result in the availability of sufficient water, consistent with the requirements of state and federal law and the terms and conditions of water delivery contracts held by SWP contractors and certain members of San Luis Delta Mendota Water Authority, and other existing applicable agreements.

The above Purpose Statement reflects the intent to advance the coequal goals set forth in the Sacramento–San Joaquin Delta Reform Act of 2009 of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The above phrase—*restore and protect the ability of the SWP and CVP to deliver up to full contract amounts*— is related to the upper limit of legal CVP and SWP contractual water amounts and delineates an upper bound for development of EIR/EIS alternatives, not a target. It is not intended to imply that increased quantities of water will be delivered under the BDCP. Alternatives that depict design capacities or operational parameters that would result in deliveries of less than full contract amounts are consistent with this purpose.

2.6 Project Need

The project need is derived from the multiple, and sometimes conflicting, challenges currently faced within the Delta. The Delta has long been an important resource for California, providing agricultural and recreational uses, fish and wildlife habitat, and water supply for large portions of the state. However, by several key criteria, the Delta is now widely perceived to be in crisis. There is an urgent need to improve the conditions for threatened and endangered fish species within the Delta. Improvements to the conveyance system are needed to respond to increased demands upon and risks to water supply reliability, water quality, and the aquatic ecosystem.

2.6.1 Delta Ecosystem Health and Productivity

Variability in the location and timing of flows, salinity, and habitat was common in the pre-European Delta.² But for the past 70 years, the state has managed the interior Delta as a freshwater system. During the same period, the ecological productivity for Delta native species and their habitats has

² For this document, the term pre-European Delta refers to the period prior to the 1840s, when the streams and rivers began being modified by European immigrants with hydraulic mining and dredging, and the construction of diversion dams and levees in the Delta and along the rivers.

1 been in decline. Removal of this heterogeneous balance of fresh and brackish habitats, necessary to
2 support various life stages of some of the Delta native species, has had a limiting effect on the
3 diversity of native habitat within the Delta. In addition, urban development, large upstream dams
4 and storage reservoirs, diversions, hydraulic mining, and the development of a managed network of
5 navigation, flood control, and irrigation canals have all affected water flow patterns and altered fish
6 and wildlife habitat availability. Most of the original tidal wetlands and many miles of sloughs in the
7 Delta were removed by channelization and levee construction between the 1850s and 1930s. These
8 physical changes, coupled with declines in water quality from urban and agricultural discharges and
9 changes in constituent dilution capacity from managed inflows and diversions, have stressed the
10 natural system and led to a decline in ecological productivity.

11 Significant declines have been reported in economically important fish species such as Chinook
12 salmon. Delta smelt, considered by many to be an indicator species for the health of the Delta
13 ecosystem, is just one component species in the community-wide Pelagic Organism Decline. Fishery
14 resource changes may be attributable to numerous factors, including water management systems
15 and facilities, water quality / chemistry alterations, and nonnative species introductions.

16 2.6.2 Water Supply Reliability

17 The distribution of precipitation and water demand in California is unbalanced. Most of the state's
18 precipitation falls in the north, yet substantial amounts of water demand are located south and west
19 of the Delta, including irrigation water for southern Central Valley agriculture, and municipal and
20 industrial uses in southern California and the Bay Area. This supply/demand imbalance led to
21 development of two major water projects: the SWP and the CVP.

22 Together, the SWP and CVP systems are two of the largest and most complex water projects in the
23 nation and provide the infrastructure for the movement of water throughout much of California.
24 They function under a suite of Congressional authorizations, interagency agreements, regulatory
25 requirements, and contractual obligations that govern daily operations and seasonal performance.
26 These include various authorizing legislation, the terms and conditions of the U.S. Fish and Wildlife
27 Service and National Marine Fisheries Service Biological Opinions, including the Reasonable and
28 Prudent Alternatives, and the water right permits issued by the State Water Board, among others.
29 Regulations for the combined SWP and CVP operations are intended to protect the beneficial uses of
30 Delta water, which include water supply, fish and environmental protection, flood management,
31 navigation, water quality, power, and recreation.

32 The water rights of the SWP and CVP are conditioned by the State Water Board to protect the
33 beneficial uses of water within each respective project and jointly for the protection of beneficial
34 uses in the Sacramento Valley and the Delta. Reservoir releases and Delta exports must be
35 coordinated to ensure that each project achieves benefit from shared water supplies and operates in
36 a manner protective of beneficial uses. It is the joint responsibility of the SWP and CVP to meet these
37 obligations regardless of hydrologic conditions. In 2006, Governor Schwarzenegger's Executive
38 Order S-17-06 created the Delta Vision Task Force to address some of the issues facing the Delta. In
39 the closing days of the Task Force's work, the SWRCB presented information indicating that several
40 times the average annual unimpaired flows in the Delta watershed have been promised to water
41 users based on the face value of water permits already issued.

42 The current and projected future inability of the SWP and CVP to deliver water to meet the demands
43 identified by certain south of Delta CVP and SWP water contractors, as well as uncertainties in the

current and/or future ability of Mirant Delta LLC to use existing intake and discharge facilities for cooling water necessary for power generation activities, are very real concerns. More specifically, there is a declining ability to meet defined water supply delivery volumes and water quality criteria to support water users' beneficial needs for human consumption, manufacturing uses, recreation, and crop irrigation.

2.6.3 Delta Hydrology and Water Quality

Generally, Delta hydrodynamics are defined by complex interactions between tributary inflows, tides, in-Delta diversions, and SWP and CVP operations, including conveyance, pumping plants, and operations of channel barriers and gates. The degree to which each variable impacts the overall hydrology of the Delta varies daily, seasonally, and from year to year, depending on the magnitude of inflows, the tidal cycle, and the extent of pumping occurring at the SWP and CVP pumping plants. Changes in water inflow and outflow throughout the Delta affect the water quality within the Delta, particularly with regard to salinity. It has been estimated that seawater is pushing 3 to 15 miles farther inland since development began in the Delta over 150 years ago (Contra Costa Water District 2010).

Additionally, other water constituents of concern in the Delta have been identified through ongoing regulatory, monitoring, and environmental planning processes such as CALFED, planning functions of the State Water Board, and the Clean Water Act Section 303(d) list of state water bodies that do not meet applicable water quality standards. In June 2007 (with updates in February and May 2009), the U.S. Environmental Protection Agency gave final approval of a list of 18 constituents identified in the Section 303(d) list for impaired Delta waters (State Water Resources Control Board 2007). Included in this list are DDT and other pesticides, mercury, PCBs, and selenium.

To further compound these challenges, fundamental changes to the Delta are certain to occur; the Delta is not a static ecological system. The anticipated effects of climate change will result in elevated sea levels, altered annual and inter-annual hydrological cycles, changed salinity and water temperature regimes in and around the Delta, and accelerated shifts in species composition and distribution. These changes add to the difficulty of resolving the increasingly intensifying conflict between the ecological needs of a range of at-risk Delta species and natural communities and the need to provide adequate and reliable water supplies for people, communities, agriculture, and industry. Anticipating, preparing for, and adapting to these changes are key underlying drivers for the BDCP.

Beginning in the 1850s, the construction of a network of levees facilitated the reclamation of the Delta for agriculture, human habitation, and other human uses. Combined with the straightening, widening, and dredging of channels, levee construction increased shipping access to the Central Valley and improved downstream water conveyance for flood control. Since then, the combined effects of continued land subsidence, sea level rise, increasing seismic risk, and worsening winter floods all increase the vulnerability of the extensive levee system. Besides degradation of water quality, levee failure could also result in flooding of Delta communities, farmland, and habitat; exposure of adjacent islands to increased seepage and wave action; and impacts on water supply, communication, and energy distribution systems.

2.7 References Cited

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